The Johns Hopkins Hospital Bulletin.

Volume I.—No. 3.] BALTIMORE, FEBRUARY, 1890. [Price, 15 Cents.

RARE MEDICAL BOOKS.

Remarks made by Dr. JOHN S. BILLINGS *at the meeting of the Johns Hopkins Hospital Medical Society, December 16th*, 1889.

The term rare as applied to medical books has a relative and not an absolute value. The bookseller might indicate as rare, a book of which he saw only two or three copies in the course of a year, although there might be fifty or sixty copies of the work constantly in the market, and one would be found in every large public library.

A rare medical book may be defined as one of which a copy is only offered for sale in any catalogue once in five years, although copies of it may be found in most of the great national medical libraries and in a few private collections.

A very rare medical book is one which only appears in the trade about once in a generation or once in twenty-five years, and of which copies can only be found in four or five large public libraries. There is no necessary connection between the rarity of a book and its cost, nor between either the rarity or cost and actual interest or value, either historical or practical.

The cost of a rare book depends mainly upon whether it is a book that is sought for, that is, in demand by collectors. If there is no demand its price may be very small.

That a medical book is rare may be due to several causes, such as its age, its size, the place where it was printed, the number of copies originally printed, the destruction of a large part of the edition by accident or of set purpose to correct blunders or errors, etc.

With regard to age we may say in a general way that most medical books printed prior to 1500, being of the class known as incunabula, are rare, although there are a few of them which can be obtained at almost any time in the shops of European booksellers.

The number of medical incunabula, of which the titles are given in Hain's *Repertorium Bibliographicum*, is, according to Daremberg, about 800, but a number are known which Hain had not seen and did not include in his work, and Dr. Stockton-Hough, who has been making a study of this subject, thinks that the total number of medical incunabula is about 1000. I do not mean by this that there were 1000 entirely different medical books printed before 1500, but 1000 different editions of medical books. For instance, there were 14 editions of the Canon Avicenna, 20 editions of the School of Salernum, 11 of Rhazes, etc. Of these medical incunabula the library of the Surgeon General's Office at Washington at present possesses about 115.

Another class of rare medical books are those which first appeared in the ordinary, or vulgar tongue, whether English, French, German or Italian, being either originally composed in the popular language, or translated from the Latin or Greek. Noteworthy among this class of books are the works upon surgery and midwifery, which were printed at Strasburg at the end of the 15th and beginning of the 16th centuries, including the works of Gersdorff, Jerome of Brunswick, Roeslin, Ryff, etc.

Certain medical books are rare because they relate to subjects in which non-medical collectors take especial interest and are, therefore, in more than usual demand. For example the work of John Hall, who was the son-in-law of Shakespeare, is much sought for by collectors of Shakespeariana, and therefore commands a good price and seldom remains long in the market. So, also, the early English tracts relating to vaccination and anti-vaccination are eagerly bought up by the numerous laymen and women who have become interested in the anti-vaccination controversy which has been going on in England for the last twenty-five years, and many of them are now only to be obtained after very considerable delay.

Early American medical pamphlets, so-called "Americana," may also be placed under this class, since there are quite a number of wealthy collectors who are eagerly seeking for publications of this kind.

As regards size, the ancient folios, especially those relating to systematic medicine or surgery or including the commentaries on the older authors, are much less rare than the pamphlets or small popular treatises of the same dates. Many of the latter were worn out by constant thumbing or were considered of little value at the time and were not preserved, while the huge folios, in their wood and hog-skin covers, do not often seem to have been read so much as to injure them seriously, and were more apt to be preserved and pass into the hands of the second-hand bookseller. Folio editions of Hippocrates and Galen, and voluminous commentaries upon these authors which appeared in the 16th and 17th centuries, can be obtained with much less delay than many medical pamphlets published in the early part of the present century. Dr. Billings then illustrated his remarks by showing the books of which the following is a list, with brief comments on each:

LIST OF RARE MEDICAL BOOKS AND PAMPHLETS ARRANGED IN THE ORDER OF DATE OF PUBLICATION.

The number given in brackets at the end of the title is the accession number of the book in the Library of the U. S. Surgeon General's Office.

ROGERIUS PARMENSIS. Incipit practica Magistri Rogerii. Capitulum primum de dolore capitis.

73 *l.* *sm.* 8o. [*n. p. n. d.*] [*Mss. of the* 15 *century, on parchment.*] [127943.]

VALESCUS DE TARANTA. Incipit tractatus de epidemia et peste.
14 *l.* 4o. [*n. p. n. d.*] [*Hain No.* 15244, *Argentorati M. Flach. Circa* 1470.] [7475.]

GUAINERIUS (ANTONIUS.) [Sign. a^2]. Incipit tractatus de matricibus editus per magistrum Anthonium Guaynerium artium ac medicinæ doctorem egregium Papiensem. [Sign f^5]. Explicit tractatus de propriis mulierum ægritudinibus Antonii Guernerii Papiensis doctoris.
41 *ff.* *Fol.* [*n. p.*] 1474. [127781.]

GRASSI (BENEVENUTUS.) De oculis eorumque egritudinibus et curis.
[*Unp.* 36 *l.* (*last blank.*) 4o. [*n. p. n. d.*] [*Ferraria, circa* 1475. *Brunet.*] [61886.]

MOSES MAIMONIDES. (Abu Amrân Musa Ben Meimun.) Tractatus rabi Moysi quem domino et magnificho soldano Babilonii transmisit [de regimine sanitatis.]
40 *l.* 4o. *Florentie, apud Sanctum Jacobum de Ripolis,* [*circa* 1478.] [41377.]

GUY DE CHAULIAC. [Fol. 1, incipit.] Nel nõmẽ de dio cõmẽza lo inventario ovẽr colectorio che apartiẽ ala parte del la cirogia: cõposto e compido del ano de la incarnation del nostro signore Mcccl xiii per lo clarissimo e famoso dõtor maistro Guidon de Gualiaco ciroi co ĩ lo clarissimo studio de Mompolier.
239 *l.*, *double col. fol.* [*At end.*] [*Venesia, N. Girardengho,* 1480.] [100737.]

MAGNINI MEDIOLANE SIS. Regimen santatis . . . Attrebatensi episcopo directum, feliciter incipit . . . Opus equidem non parum utile omni cum diligentia in hoc volumen redactum feliciter explicit.
175 *l.* 8o. *Lovanii, J. de Westfalia Alma,* 1482. [91971.]

BAGELLARDUS *à flumine* (PAULUS.) Libellus de ægritudinibus infantium.
22 *ff.* 4o.
[Ad fin.] [Finit perbreve opusculum de infantium infirmitatibus remediisque earum.
[*Paduæ.*] [*M. de Vindischgretz,* 1487.] [123306.]

HORTUS SANITATIS, de herbis et plantis, de animalibus et reptilibus, de avibus et volatilibus, de piscibus et natalibus, de lapidibus et in terræ venis nascentibus, de urinis et earum speciebus.
[*Auctore J. Cuba.*] 453 *ff.* *Fol. Moguntiæ, J. Meydenbach,* 1491. [5594.] Gothic letters; figures colored.

ARTICELLA.
196 *l.* *Fol.* *Venitiis, B. Locatellus,* 1493. [7396.]
Gothic letter, double columns; illuminated. Contents: 1. Liber Joanitii qui dicitur Isagoge; 2. Libellus Philareti de pulsibus; 3. Libellus Theophili de urinis; 4. Hippocratis aphorismi: 5. Idem, cum commento Galieni; 6. Liber pronosticorum, cum translatione nova et antiqua; 7. Liber regiminis acutorum, quatuor particulas continens; 8. Liber Hippocratis epidimiarum, cum commento; 9. Libellus Hippoc. qui intitulatur de natura fœtus; 10. Liber Galieni qui dicitur tegni sive ars parva; 11. Libellus Gentilis de fulgĩneo, de divisione, et cet.; 12. Libellus de lege Hippoc. et libellus qui dicitur jusjarandum.

KETAM [or KETHAM] (JOANNES.) Fasciculus medicine in quo continentur: videlicet. Primo judicia urinarum cum suis accidentiis. Secundo tractatus de flobotomia. Tertio de cyrogia. Quarto de matrice mulierum et impregnatione. Quinto concilia utilissima contra epidemiam. Sexto de anothomia Mundini totius corporis humani. Et quamplura aliaque hic non explanantur in titulo habentur in hiis opusculis, ut manifestetur legenti.
40 *l.* *Fol.* [100745.]
[Ad. fin.: Impressus Venetiis per Joannes et Gregorius de Gregorius fratres, 1495.]

HUNDT (MAGNUS.) [—— 1519.] Antropologium de hominis dignitate, natura, et proprietatibus; de elementis, partibus et membris humani corporis. De juvamentis nocumentis accidentibus vitijs remedijs et physionomia ipsorum. De excrementis et exeuntibus. De spiritu humano ejusque natura partibus et operibus. De anima humana et ipsius appendicijs.
119 *l.* 4o. [87368.]
[Ad. fin.: Impressum et finitum est hoc opus Liptzick per Baccalarium Wolfgangum Monacensem anno nostre salutis MCCCCCI.]

GRÜNPECK DE BURCKHAUSEN (JOSEPH.) Libellus Josephi Grünbeckii de mentulagra alias morbo gallico.
14 *l.* 4o. [*n. p. n. d.*] [87508.]
Hain 8089. Memmingæ. Alb. Kunne de Duderstadt. The preface ends: Datum in natali solo Burckhausen, tercio nonas May, anno milesimo quingentesimotercio Regni Maximiliani decimooctava, 1503.

BENIVENIUS (ANTONIUS.) De abditis nonnullis ac mirandis morborum et sanationum causis.
54 *ff.* 8o. [127929.]
Impressum Florentiæ, opera et impensa Philippi Giuntæ Florentini, MCCCCCVII.

BRUNSCHWIG (HIERONYMUS.) Das Buch der Wundartzeny. Handwirckung der Cirurgia. Nüw getruct mit oredlicher züsatzung.
CXXVI ff. *Fol.* [*Strasburg.*] *J. Grüninger,* 1509. [84148.]

VON GERSDORFF (HANS.) Feldtbuch der Wundtartzney.
4, *XCV l.* *Fol.* *Strassburg, J. Schott,* 1517. [84148.]
Title-page a large wood-cut. On the reverse the commencement is: "Meister Hans von Gersdorff, genant Schylhans, Bürger und Wundartzet zu Strassburg," etc.

APOLLINARIS (Q.) [pseudon?] Manual Buchlein. Von Allerhandt Gifft, Wunden, unnd Feldt Kranckheyten eyn kurtzer Bericht. Durch Q. Apollinarem.
4 *l.* *LXXI ff.*, 1 *l.* *Sm.* 4o. *Getruckt zu Strassburg bei M. Jacob Cammerlander.* [*n. d.*] [121471.]

SCHMAUS (LEONARD.) Lucubratiuncula de morbo Gallico et cura ejus noviter reperta cum ligno Indico.
6 *l.* *sm.* 4o. [124335.]
Ad. finem: In officina Sigismundi Grimm medicine doctoris atque Marci Wyrsung Auguste Vindelicorum Anno 1518, die vero. 17 Decembris.

BRUNSCHWIG. The noble experyence of the vertuous handy warke of surgeri, practysyd and compyled by the moost experte mayster Jherome of Bruynswyke, borne in Straesborowe in Almayne, the whiche hath it fyrst proued, and trewly founde by his awne dayly exercysyinge. Item thereafter he hath authorysed and done it to understande thrugh the trewe sentences of the olde doctours and maysters very experte in the scyence of Surgery. As Galienus, Ipocras, Auicenna, Gwydo, Haly Abbas, Lanefrancus of Mylen, [etc.] Here also shall ye finde for to cure and hele all wounded membres and other swellynges, [etc.]
78 *l.* [*Black letter, double columns.*] *Fol.* *London, imp. by P. Treverus,* 1525. [30894.]

HIPPOCRATES. Aphorismorum sectiones septem, ex Franc. Rabelæsi recognitione. Quibus ex Ant. Musæ commentariis adjecimus et octavam: et quædam alia, quæ sequens indicabit pagella.
318 *pp.* 16o. *Lugduni, apud S. Gryphium,* 1543. [106727.]

FUCHS (REMACLE.) [1510–1587.] Plantarum omnium quarum hodie apud pharmacopolas usus est magis frequens nomenclaturæ juxta græcorum, latinorum, gallo. ital. Hispa. et germa. sententiam, per *Remacl. Fusch à Lymborch.*
34 *l.* 32o. *Parisiis, ex. off. D. Janotii,* 1544. [123765.]

GUIDO (JEHAN.) Traicte & remedes contre la peste, utiles & salutaires a gens de tous estatz.
8 *l.* 12o. *Paris, N. Buffet,* 1545. [101278.)

LANFRANC. A most excellent and learned woorke of chirurgerie, called Chirurgia parva Lanfranci, Lanfranke of Mylayne his briefe: reduced from dyvers translations to our vulgar or usuall frase, and now first published in the Englyshe prynte by John Halle, chirurgien, [etc.]
15 *p. l.*, 73 *pp.*, 2 *l.*; 8 *p. l.*, 143 *pp.*, 7 *l.*; 4 *p. l.*, 96 *pp.*, 8 *l.*; 23 *l.* 12o. *London, T. Marshe,* 1565. [5087.]

ARCÆUS (FRANCISCUS.) A most excellent and compendius method of curing woundes in the head, and in other partes of the body, with other precepts of the same arte, ... translated by John Read. Whereunto is added the exact cure of the caruncle . . . with a treatise of the fistulæ in the fundament, and other places of the body, translated out of Johannes Ardern. And also the discription of the emplaister called Dia Chalciteos, [etc.]
16 *p. l.*, 119 *ff.*, 1 *l.*, *Black letter.* 4o. *London, printed by T. East for T. Cadinan,* 1588. [39038.]

HARVEY (WILLIAM.) Exercitatio anatomica de motu cordis et sanguinis in animalibus.
72 *pp.* *Sm.* 4o. *Francofurti, sumpt G. Fitzeri,* 1628. [70865.]

HALL (JOHN.) Select observations on English bodies: or, cures both empericall and historicall, performed upon very eminent persons in desperate diseases. First written in Latine by . . . . , living at Stratford upon Avon in Warwick-Shire, where he was very famous, as also in the counties adjacent, as appeares by these observations drawn out of severall hundreds of his, as choysest. Now put into English for common benefit by James Cooke.
10 *p. l.* 316 *pp.* 16o. *London, J. Sherley,* 1657. [102947.]

R[UMSEY] (W.) Organon salutis, an instrument to cleanse the stomach, as also divers new experiments of the virtue of tobacco and coffee: how much do they conduce to humane health.
11 *p. l.* 56 *pp.* 18o. *London, R. Hodgkinsonne,* 1657. [104981.]

SANCTORIUS (SANCTORIUS.) Opera omnia quatuor tomis distincta.
4 *v.* 4o. *Venetiis,* 1660. [104263 to 266.]

THACHER (THOMAS.) A brief rule to guide the common people of New England how to order themselves and theirs in the small-pox and measles.
8 *pp.* 12o. [*n. p. n. d.*] [91388.]
[This pamphlet is signed on last page thus: 21 d., 11 m., 1677–8.]

SOCRATES (J. C.) Grundliche und vollständige Beschreibung des Peniculi ventriculi singularis, quo nempe ventriculus detergitur et expurgatur sive novi instrumenti repurgatorii ventriculi. D. i. Der sonderbaren und curieusen Magen-Borste, Magen-Krätzers oder Magen-Raumers, wie solches mechanische Instrument in vielen incurablen und desparaten Kranckheiten vortrefflichen Effect gethan, und solche feliciter geheilet, auch wie man so wohl præservative, als curative seine Gesündheit lange Jahre erhalten könne; aus unterschiedlichen gelehrten observationibus denen nothleidenden Patienten, so solche höchst-nöthig brauchen zum Trost und grossen Nutzen, dem Curieusen Leser aber zum Divertissement mit Fleiss in Druck gegeben.
4 *p. l.* 32 *pp.* 1 *pl.* 8o. [*Leipzig*, 1712.]

SYSTÊME d'un medecin anglais sur la cause de toutes les especes de maladies, avec les surprenantes configurations des differentes especes de petits insectes, qu'on voit par le moyen d'un bon microscope dans le sang and dans le urines des differens maladies, and même de tous ceux qui doivent le devenir. Recueilli par M. A. C. D.
34 *pp.* 8o. *Paris, A. X. R. Mesnier*, 1726.

BOYLSTON (ZABDIEL.) An historical account of the small-pox inoculated in New England, upon all sorts of persons, whites, blacks, and of all ages and constitutions. With some account of the nature of the infection in the natural and inoculated way, and their different effects on human bodies. With some short directions to the unexperienced in this method of practice.
The second edition, corrected.
VI., VI., 53 *pp.* 8o. *London*, 1726. [78136.]
Reprinted at Boston for S. Gerrish and T. Hancock, 1730.
With an autograph letter by Dr. Boylston inserted.

LETTER (A) to Doctor Zabdiel. Boylston; occasioned by a late dissertation concerning inoculation [by Dr. Wm. Douglass], printed at Boston.
14 *pp.* 8o. *Boston, D. Henchman & F. Hancock*, 1730. [78136.]

WALTON (JOHN.) An essay on Fevers, the Rattles and Canker.
Sm. 8o. *Boston, printed by F. Fleet. Sold by F. Hancock*, 1732. [88941.]
[The second part has a separate title page and pagination—the title being "A short essay on the rattles, and canker."]

FITCH (JABEZ.) Two sermons, on occasion of the fatal distemper which prevail'd in sundry towns within the province of New Hampshire.
in., 27 *pp.* 12o. *Boston, E. Russell*, 1736. [84025.]

ACCOUNT (AN) of the numbers that have died of the distemper in the throat, within the Province of New Hampshire, with some reflections thereon. July 26, 1736.
14 *pp.* 12o. *Boston, E. Russell*, 1736. [84026.]

TAYLOR (JOHN.) An impartial inquiry into the seat of the immediate organ of sight, viz.: Whether the retina or choroïdes. Being the subject of a lecture, in a course lately given on the nature and cure of the diseases of the eye. To which are annexed, five and forty queries on this controverted subject. Submitted to the examination of the curious. To which is added, some account of the author's success, and a list of writers on the diseases of the eye, cited by him in the course of his lectures.
VIII., 56 *pp.* 12o. *London, M. Cooper*, 1743. [123698.]

[CADWALADER (THOMAS.)] An essay on the West-India dry-gripes, with the method of preventing and curing that cruel distemper. To which is added an extraordinary case in physick.
V., 42 *pp.* 8o. *Philadelphia, B. Franklin*, 1745. [91110.]

TAYLOR (JOHN.) An exact account of two hundred and forty-three different diseases, to which the eye and its coverings are exposed; all copied after nature, in the order many years given, in various languages, viz.: Latin, French, Italian, Spanish, Portuguese, &c., &c., in the several courts, and in presence of crowned heads, sovereign princes, and in many of the most celebrated Academies, Universities, and Societies of the learned; being the produce of the greatest experience, long and most extensive practice, (in the cure of distempered eyes,) of any in the age we live.
VIII, 9–50 *pp.* 7 *l.* 8o. *Edinburg, R. Fleming*, 1759.

MORGAN (JOHN.) A recommendation of inoculation according to Baron Dimsdale's method.
18 *pp.* 8o. *Boston, J. Gill*, 1776. [84024.]

MORGAN (JOHN.) A vindication of his public character in the station of director-general of the military hospitals and physician-in-chief to the American Army, anno 1776.
XLIII., 158 *pp.* 8o. *Boston, Powars & Willis*, 1777. [93287.]

JENNER (EDWARD) [1749–1823.] An inquiry into the causes and effects of the variolæ vaccinæ, a disease discovered in some of the western counties of England, particularly Gloucestershire, and known by the name of the cowpox.
IV., 75 *pp.*, 4 *pl.* 4o. *London, S. Low*, 1798. [84068.]

HARINGTON (SIR JOHN.) The metamorphosis of Ajax; a Cloacinean Satire.
8o. *Chiswick*, 1814.

MOODIE (JOHN.) A medical treatise, with principles and observations to preserve chastity and morality, with four plates of an apparatus for the same purpose; and principles and observations to preserve the beauty, expression and youth of the face, so much destroyed by stuffing, sea-bathing and the evils of tight-lacing, [etc.]
IV., 91, 8 *pp.* 8o. *Edinburgh, Stevenson & Co.*, 1848. [87629.]

BOOK NOTES.

Human Anatomy: Systematic and Topographical, including the Embryology, Histology and Morphology of man. With special reference to the requirements of Practical Surgery and Medicine. By ALEXANDER MACALISTER, M. D., F. R. S., F. S. A., Professor of Anatomy in the University of Cambridge, etc. With 816 illustrations. (*P. Blakiston, Son & Co., Philadelphia.*)

The matter of the book is good. It is plainly and concisely written, and contains a great deal not ordinarily found in the text books on anatomy. The plates are very numerous and well selected, especially those illustrating the embryology of the different organs. The artistic execution of them is very poor, the type and paper are also poor. While there is much in the book to commend it contains some curious errors. In the article on the heart it says, "The volume of the male adult heart averages 270 ccm., that of the female 235 ccm.; the average weight of the male is 230 grammes, in the female 190." Not only is the weight rather high but the volume is given as more than the weight so that we must suppose that the heart, when thrown into water, would have almost the buoyancy of pine wood. The same mistake is made when speaking of the kidney, "The gland weighs 140 grammes in the male, 120 in the female, and its volume is 150 ccm." As the author does not mention whether this is the volume of the kidney of the male or female we must suppose that it represents an average between them, and that, like the heart, it has the property of floating. The use of the metric system throughout is to be commended.

A Guide to the Diseases of Children. By JAMES FREDERIC GOODHART, M. D., F. R. C. P., Physician to Guy's Hospital. Rearranged, revised and edited by LOUIS STARR, M. D. Second American from the third English edition. (*P. Blakiston, Son & Co., Philadelphia.*)

Goodhart's Manual is one of the most satisfactory which has been published on the subject, thoroughly practical and with special attention given to the subject of treatment. This edition appears to have received very careful revision. Dr. Starr has, in many of the sections, made important additions, especially on the subject of "feeding infants and children."

A Manual of Nursing—Medical and Surgical. By CHARLES J. CULLINGWORTH, M. D. Third Edition, revised. (*P. Blakiston, Son & Co., Philadelphia.*)

This book, as its title implies, is a manual of nursing for nurses, and not like too many others, a compendious treatise on the whole range of medical science. It is par excellence the best practical manual of nursing. The third edition has been carefully revised and brought up to date. It has judicious chapters on antiseptics, modes of contagion, separation of the sick, preparation of foods, &c. It is also provided with an excellent index. It is to be regretted that the book is so exclusively an English book for English nurses. Directions, for example, that a sick room shall not be warmer than 60 or 62 degrees, do not seem applicable to this side the Atlantic. The same is true of references to instruments and apparatus. It is to be hoped that a future edition will be adapted to the needs of nurses in America.

RECENT LITERATURE ON HYGIENE.

UFFELMANN, J. (Extraordinary Professor of Hygiene and Director of the Hygienic Institute of the University at Rostock.) Handbuch der Hygiene. (*Urban & Schwarzenberg, Publishers, Leipsig and Wien.*) Price 20 mks.

RUBNER, MAX. (Professor of Hygiene and Director of the Hygienic Institute at Marburg.) Lehrbuch der Hygiene. (*Franz Deuticke, Publisher, Leipzig and Wien.*) Price, complete in 10 sections, 20 mks.

FLÜGGE, C. (Extraordinary Professor of Hygiene and Director of the Hygienic Institute of the University at Breslau.) Grundriss der Hygiene. (*Veit & Co., Publishers, Leipzig.*) Price 11 mks.

BURGENSTEIN, LEO. (Translated into German by——.) Key's Schulhygienische Untersuchungen. (*Leopold Voss, Publisher, Hamburg and Leipzig.*) Price 12 mks.

ROSENTHAL, J. (Extraordinary Professor of Physiology at Erlangen.) Vorlesungen über die offentliche und private Gesundheitsphlige. Second enlarged and improved edition, 1890. (*Eduard Besold, Publisher, Erlangen.*) Price 12 mks.

SCHULZ, OSCAR. (Assistant in the Physiological Institute, Erlangen.) Kurze Einleitung zu hygienischen Untersuchungen. (*Eduard Besold, Publisher, Erlangen.*) Price 1.60 mks.

EMMERICH AND TRILLICH. (Of the Hygienic Institute at Munich.) Einleitung zu hygienischen Untersuchungen. (*Rieger, Publisher, Munich.*) Price 6.75 mks.

In the first two works mentioned (Uffelmann and Rubner), the matter is compiled in a way especially intended for students and physicians about commencing the study of Hygiene.

Rosenthal and Flügge treat the subject in a general way—little or no methods of work being described. The former may be classed as semi-popular. The latter is especially to be recommended.

Key's devotes his entire work to the Hygiene of Schools, giving statistics of diseases common to school children, &c.

Emmerich and Trillich, likewise Schulz, treat only of the methods employed in practical hygienic investigations. The former give the program for a course in practical hygienic methods recommended by von Pettenkofer as adapted to the needs of candidates for the position of health officers.

A. C. A.

NOTES ON NEW DRUGS.

ON CHLORALAMIDE.

By HARRY TOULMIN, M. D.

Chloralamide, one of the most recent of the new hypnotics—somnal alone being of later date—is the product of a mixture of chloral anhydrid—(CCl_3, CHO.) and formamide (CHO. NH_2)—its formula being CCl_3 CH. $<^{O\,H.}_{NH.}$ CHO. It is not a mechanical mixture, as its name implies, and should more properly be called a chloral formamide or formidate of chloral. With urethrane, paraldehyde, sulphonal and others, it is a member of the fatty ether series. It occurs in colorless crystals, and is soluble in nine parts of water and one and a half parts of alcohol. It has a mild, slightly bitter taste and neutral reaction. Alcholic and aqueous solutions separate when the temperature is about 140° F. It is decomposed by caustic and carbonic alkalies, but is not affected by weak acids.

It was first made at the suggestion of Prof. von Mering, of Strassburg, by E. Schering. The earliest reports are those of Rabow,[1] Hagen and Hüfler,[2] Reichman[3] and Peiper,[4] and later those of von Mering,[5] Alt,[6] Kay,[7] Lettow,[8] Paterson,[9] Alt,[10] Robinson,[11] White[12] and Leech.[13]

The reports, with few exceptions, are most favorable. The observations have been chiefly clinical, though a number of experimental results are also given. An analysis of these observations would lead to the belief that chloralamide is a valuable hypnotic, producing a quiet, natural sleep lasting from eight to thirty-six hours, varying irregularly with the dose. In the majority of instances no unpleasant after effects were produced, though at times there was giddiness, anorexia, or headache. No effect was produced on the circulation and urinary secretion or temperature.

The modes of administration have been various, in alcoholic solutions, in tea, beer, or hot water; or by enema. The dose advised is from thirty to forty-five grains, though in some cases even fifteen grains may give sleep. The drug is said to act in from one-half an hour to one and a half hours.

As compared with chloral and sulphonal, most of the writers find chloralamide superior, having equal hypnotic powers and but few unpleasant after effects; other advantages claimed are that it does not depress, is readily soluble, is pleasant to take and is cheap.

Under Dr. Osler's directions, chloralamide, obtained through Merck, has been used in the hospital in fifty cases. The dose has varied from ten to sixty grains, both in single and in divided doses. The mode of administration has always been by the mouth, either in the form of a powder or in an alcoholic solution. In order to estimate the value of the drug the following plan was followed:

The patient was asked in the morning how he or she slept, while the night nurse was told to observe closely and note the time of sleeping, and the character of the sleep, making half-hourly memoranda. In the morning the patient was again asked as to the sleep of the night just passed, his condition on awaking, and his statements were compared with the written report.

An analysis of the results reveals the following: The drug was employed in fifty cases, and one hundred and eighty-six separate doses were given. Of the fifty cases, five were from the Dispensary, the remainder from the wards. Forty were poor sleepers, as a rule; ten were not troubled with sleeplessness. To the latter the chloralamide was given in order to note the effect on the pulse, duration of sleep, &c. The list of diseases embraces phthisis, cardiac disease, chronic nervous affections, diabetes, aneurism, typhoid fever, pneumonia, bronchitis and others.

The results were classified under three heads;—those in which there was an undoubted hypnotic action, those in which the action was uncertain, and those in which the result was unmistakably negative. As an example of the first class, Case VIII might be cited: C. J., male, colored, aet. 40; diabetes, a light sleeper, generally awoke four to six times through the night. He usually had six hours broken sleep. December 11th. Grains thirty at 9 p. m. Asleep a few minutes before ten—9.55—and slept soundly till 6. Not drowsy on awakening. No ill effects. Of the 186 trials, eighty-six fall under this head, or 46.32 per cent. of positive results.

Case XXXVII illustrates the negative cases:—

G. W., male, white, aet. 32, transverse myelitis, sleeping only four hours at night. January 6th. Grains twenty at 11 p. m. Slept lightly from 11 to 12, and from 3 to 5. January 7th. Grains thirty at 10 p. m. Not asleep till 3 a. m., when he dozed for two hours. Under this head came eighty-five administrations—per cent. 45.69. In fifteen trials the action was uncertain.

In sixteen instances ill effects followed—headache in eight, and a sense of being dazed and confused in four; while in two there was mental derangement.

Sleep followed within an hour after administration in nearly every positive case, and generally within the first half-hour. In only one case did it last more than nine hours. The largest single dose given was forty grains, and on three occasions this was followed by a second dose of twenty grains in five hours without any apparent effect, except to cause delirium and wakefulness in one of these. In one case twenty-seven consecutive doses were given, with uniform result, so that there does not seem to be a necessity of increasing the dose, nor was a cumulative action noticed.

From these observations, limited, it is true, we cannot speak very highly of chloralamide as a hypnotic. It is much inferior to sulfonal or chloral, and possesses no special properties which warrant its introduction into general use.

[1] Centralblatt für Nervenheilkunde, Aug. 1, 1889.
[2] Wiener medizinische Blätter, Aug. 1, 1889.
[3] Deutsche medizinische Wochenschrift, Aug. 1, 1889.
[4] Deutsche medizinische Wochenschrift, Aug. 8, 1889.
[5] Berliner klinische Wochenschrift, No. 33, 1889.
[6] Berliner klinische Wochenschrift, Sept. 9, 1889.
[7] Therapeutische Monatshefte, Aug., 1889.
[8] Wiener medizinische Presse, No. 38, 1889.
[9] Lancet, Oct. 26, 1889.
[10] Wiener medizinische Blätter, Sept. 12, 1889.
[11] Deutsche medizinische Wochenschrift, Dec. 5, 1882.
[12] British Med. Journal, Dec. 14, 1889.
[13] British Med. Journal, Nov. 2, 1889.

ON TRICHLORACETIC ACID AS A TEST FOR ALBUMEN IN URINE.

BY D. MEREDITH REESE, M. D.

An editorial note in the *British Medical Journal*, November, 1889, called attention to a new test for albumen in urine. Trichloracetic acid CCl_3 COOH, a substitution product of acetic acid, formed from acetic acid by the replacement of three of its hydrogen atoms by three chlorine atoms occurs as a crystalline salt, and is colorless and readily soluble in water. Boymond,[1] claims to have been the first to make mention of the reagent and since this it has been adopted by Raabe.[2] Boymond begins his article by saying that Marsalt and Languipin[3] have described albuminous urine in which a precipitate by heat was gotten, but in which urine the precipitate was re-dissolved by acetic acid. Patein,[4] in a note quite recently made, attributes this fact to the presence of a special albumen differing from serum albumen and globulin. Boymond has observed this phenomena repeatedly, and considers that the condition is much less rare than supposed and that the peculiarity has much import; for in a rapid examination of urine where heat and acetic acid are used alone, we might perhaps conclude that albumen was absent, when the urine might contain considerable proportion of this special variety of albumen. He has been accustomed for some time to employ trichloracetic acid instead of acetic acid. Other agents which precipitate albumen also precipitate this variety, but trichloracetic acid presents some advantages, and particularly that of not changing the albumen. The reagent precipitates albumen in cold solution, and is considered to rank among the most delicate tests. Raabe, in the article referred to above, considers it extremely sensitive, superior to HNO_3 and to metaphosphoric acid, advocated by Hindenlang.[4] Raabe gives the relative amounts of albumen recognized by metaphosphoric acid, nitric acid and trichloracetic acid as in the proportion 1 : 3.7 : 6.2. He also states that .0295 grm. of albumen can be recognized in 250 cc. of urine.

It may be employed as a solid or a liquid. When used as a solid a crystal of the salt is dropped into the urine in a test tube, and reaching the bottom is dissolved, producing a diffuse turbidity or turbid zone definitely marked out. When used in liquid form, the solution may be saturated or of medium strength. The saturated solution is used after the method employed with HNO_3 in Heller's test, by floating the urine on the acid. A characteristic ring will be formed, as one finds with the HNO_3 test, but without the production of the colored zone between the urine and acid caused by the oxidation of the pigments. When urine is rich in urates of soda error will be avoided, an error common to all reagents, by diluting the urine with the addition of distilled water. Boymond closes his paper by saying that he confirms the observations of Marsalt and Languipin, and that he wishes to draw attention again to trichloracetic acid as a useful test in not only this particular variety of albumen, but in the ordinary forms.

In the last few months this reagent has been tried in the Clinical Laboratory. The article was obtained from Merck and found to be, as Boymond describes, a crystalline salt, colorless and deliquescent.

In all the tests a saturated solution was used, making a liquid of the consistency of HNO_3. This was kept well stoppered to keep it of uniform strength in the experiments. It was employed as above described by pouring the acid beneath the urine by means of a pipette.

In all, eighty-seven different urines have been tested, the urine filtered, and that from women drawn by catheter. At first only those urines, showing albumen by control tests such as heat, HNO_3 and picric acid, were used and in all cases trichloracetic acid gave a distinct, clearly defined zone, produced immediately, with no discoloration whatever between the urine and acid. Generally the zone was produced more quickly than with nitric acid and was of a greater thickness and intensity. On standing for some time a slight pinkish discoloration may in some cases be obtained below the urine in the acid when trichloracetic acid is used.

In forty-three cases where the control tests gave albumen, a precipitate was obtained by trichloracetic acid, not dissolved, but made more distinct by heat.

In twenty-five cases no reaction whatever was obtained by any test. In fourteen cases where there was no reaction by control tests, the trichloracetic acid gave a precipitate. In eleven of these cases granular, epithelial and hyaline casts were found, and in three of these eleven cases the post-mortem showed distinct changes in the kidneys.

In three cases where heat and acetic acid and nitric acid gave no precipitate of albumen, a precipitate was obtained by picric and trichloracetic acids. In all three of these cases casts were found.

In two cases where the precipitate on heat was dissolved again by acetic acid, trichloracetic acid gave a good precipitate.

In conclusion it may be said that trichloracetic acid has proven a most delicate test for albumen in urine; that it is prompt in its reaction; that it gives no discoloration or colored zone; that it is a test easily applied and one worthy of more extended use.

1 Repertoire de Pharmacie for October, 1889.
2 Berichte der deutsch. chem. Gesellschaft, 1881, Vol. XIV, page 2212.
3 Archives de Pharmacie, December, 1887.
4 Comptes Rendus Acad. Sc., et Repert. de Pharm., September, 1889.
5 Berliner klinische Wochenschrift, No. 15, 1881.

INSTRUCTION IN HYGIENE.

A course of instruction in Practical Hygiene, under the charge of Dr. John S. Billings, Surgeon U. S. Army, and Lecturer on Hygiene in the Johns Hopkins University, assisted by Dr. A. C. Abbott, Assistant in Bacteriology and Hygiene in the Johns Hopkins Hospital, will be given in this institution during the months of March, April and May, 1890.

The course will begin Monday, March 3rd, and will continue for four days in each week, (Monday, Tuesday, Thursday and Friday), from 9 until 12 o'clock a. m., until Friday, May 30th. One hour each day will be given to demonstrating the methods to be employed in the day's work, the remaining two hours will be for the practice of the methods by the students.

The instruction will be given by lectures and practical work in the Laboratory.

I. *Lectures.*

A course of four Lectures will be given by Dr. Billings during April to advanced students in Hygiene, the subject selected being "Sewage Disposal."

These lectures will be given on Mondays at 4.30 p. m., beginning Monday, April 7, 1890.

II. *Practical Work in the Laboratory* will comprise

(1). Investigation of the Atmosphere, { Physical. Chemical. Bacteriological.
(2). Investigation of the Water { Chemical. Bacteriological.
(3). Investigation of the Ground { Physical. Chemical. Bacteriological.
(4). Inspection of Milk and Meat
(5). Studies upon Ventilation and Heating.
(6). Practical work in Disinfection and Sterilization, both chemical and thermal.
(7). Inspection of Ground for Building Sites.
(8). Inspection of Building Materials.
(9). Inspection of Clothing Materials.

For further particulars, address

SUPERINTENDENT OF THE JOHNS HOPKINS HOSPITAL,
NORTH BROADWAY, BALTIMORE.

PROCEEDINGS OF SOCIETIES.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting of December 2d, 1889.

Dr. WELCH in the Chair. 40 members present.

Congenital Heart Disease.—Dr. OSLER.

Dr. Osler exhibited a case of congenital heart disease and made the following remarks:

The little patient here exhibited was brought by her mother to the dispensary November 14th on account of shortness of breath and blueness of face and extremities. There was nothing in the family history of moment. The birth was normal, and, though not a large child, she looked healthy and was not noticed at first to be blue. She was delicate during her first year, often short of breath and the mother thinks that she may have had more color than normal, but the dyspnœa seemed to have been the first symptom to attract attention. The blueness was first noticed in the nose and in the fingers and toes. The mother gives an indefinite account of a paralytic attack last year in which the child had no use of the right side for some time.

Present condition. A feebly developed child for her age, looks bright and intelligent, is only just beginning to walk and to talk. Uses both sides indifferently. No trace of paralysis, though the right arm seems somewhat smaller than the left. The face is intensely cyanosed. The lips, nose and ears are quite blue. The hands and feet are cold, congested; and the extremities of a deep blue tint. The fingers and toes are clubbed. The terminal joints are bulbous to an unusual degree. When quiet in her mother's lap the breathing is natural, but on the slightest exertion, or if she cries, the respiration becomes hurried.

On examination of the heart, apex beat is neither visible nor palpable. There is only a small area of superficial cardiac dullness. The left lobe of the lung covers over the heart more than is usual in a child at this age. On palpation, there is a slight shock to be felt below the nipple and a feeble impulse also in this situation, diffused and not punctuate. There is no thrill. On auscultation there is heard below the nipple a systolic murmur, which is propagated into axilla, but is not heard at the back. Towards the sternum it increases in intensity, is very loud along the left border and has a maximum intensity in the third left intercostal space. The second sound is also loud and clear at the apex, more marked here, indeed, than along the left sternal border. At the aortic cartilage both sounds are heard and also a distant systolic murmur.

The lungs are clear. The vesicular murmur is loud and breezy. The examination of the abdominal viscera is negative. The liver, however, seems full and large.

Dr. Osler remarked upon the difficulty which these cases of congenital heart disease presented in the diagnosis. He thought that here, in all probability, the pulmonary orifice was involved. The condition was not one for which much could be done and the prospect of the child reaching maturity was not very hopeful.

Sudden Deaths from Cardiac Disease.—Dr. WELCH.

Dr. Welch presented specimens illustrating lesions of the coronary arteries of the heart, and said that:—

1. The first specimen was one of thrombosis of the descending branch of the left coronary artery.

The patient was a strongly-built, well-nourished German, 55 years old. Five years ago, he had an attack of acute articular rheumatism, and had suffered from sub-acute attacks of rheumatism for several years. He had been a hard drinker. For several months before admission to the hospital, he had suffered from pain in the region of the heart, palpitation, shortness of breath and bloody expectoration. He had paroxysmal attacks of cardiac dyspnœa and pain. He had not noticed any swelling of the feet.

On admission the respiration was quiet, the pulse 72, small and regular, the arterial wall somewhat stiff. The apex beat of the heart in the fifth intercostal space below nipple. Presystolic thrill. Marked shortness of first sound. A loud presystolic murmur heard at apex. Both aortic sounds clear. The urine contained albumen, hyaline and granular casts. Patient was in the hospital for four weeks, during which he had occasional paroxysmal attacks of dyspnœa, lasting for an hour or more. In the intervals his condition was fairly comfortable. On the morning of November 30th, he was suddenly seized with pain in the chest and shortness of breath, and in a few moments before any assistance could be rendered he was dead.

At the autopsy the essential lesions were found in the heart. The mitral orifice was greatly narrowed, measuring 13 x 8 mm. The chordæ tendineæ of the mitral valve were thickened and shortened; the mitral segments thickened and atheromatous, free from thrombi. The other valves were normal. The heart was greatly hypertrophied and dilated. The hypertrophy and dilatation of the left auricle were most extreme, its wall measuring in places 6 mm. in thickness. The wall of the left ventricle measured 23 mm. and that of the right ventricle 5 mm. in thickness. The heart muscle was firm and of a dark reddish-brown color. On microscopical examination it presented slight fatty degeneration.

The coronary arteries were markedly atheromatous, their walls being irregularly thickened and presenting on the inner surface irregular, elevated, opaque, yellowish white patches. The left coronary artery contained, 3 cm. from its origin, a fresh dark red, almost black, thrombus, adherent to an atheromatous plâque, and about one-half centimeter in length. This thrombus completely occluded the lumen of the artery at this point. It was situated in the descending or vertical branch of the left coronary artery.

The aorta throughout its entire extent appeared thickened, dilated, and presented numerous elevated atheromatous patches.

The lungs, liver, spleen, and kidney presented marked chronic passive congestion. The spleen and kidney contained the scars of old infarctions. The large and small bronchi contained muco-pus.

There was an area of old softening involving the cortex of the left second and third frontal convolutions near the anterior central convolution and the adjacent part of the island of Reil.

The chief interest of the case is the explanation of the sudden death of the patient. This is undoubtedly referable to the fresh thrombus which was found attached to an atheromatous patch in the main branch of the left coronary artery. Although marked atheromatous disease of the coronary arteries existed, the circulation in these vessels had not been sufficiently impeded to give rise to fibroid patches in the myocardium. The appearance of the thrombus and the absence of infarction or anæmic necrosis of the heart muscle, are evidence that the clot must have been of recent formation. The cause of the thrombosis was doubtless the irregular atheromatous projecting plâque to which the thrombus was adherent. As is well known, diseases obstructing the circulation of blood through the coronary arteries, such as arterio-sclerosis, thrombosis, embolism of these vessels, are among the most frequent causes of sudden death.

2. The second specimen was one of complete occlusion of the mouth of the right coronary artery.

The patient, a negro 36 years old, about six months before admission to the hospital began to suffer from shortness of breath on exertion, and palpitation of the heart. Oedema of the lower extremities appeared, but he was able to do the work of a laboring man until six weeks before admission. Upon admission there were observed severe dyspnœa, general anasarca, pulsation of the veins, increased area of cardiac dullness, the apex beat being in sixth intercostal space in middle line of axilla, and diastolic and systolic murmurs heard most distinctly over base of heart. The urine was scanty, specific gravity 1010 and contained granular and hyaline casts, and some red blood corpuscles and pus cells. For a time he improved under treatment but a few hours before death his pulse became very irregular, small, feeble and compressible, and he died somewhat suddenly.

At the autopsy the heart was found greatly hypertrophied and dilated, the left ventricle being 14 and the right 12 cm. long. The heart weighed 858 grammes. The thickness of the wall of the left ventricle was 25 mm.; that of right ventricle 9 mm. The segments of the aortic valve were much thickened, roughened, retracted, and adherent to each other. The muscular substance of the left ventricle presented several grayish, irregular fibroid patches taking the place of the muscular tissue. The papillary muscles were extensively fibroid. The aorta for a distance of 4 cm. above the valves presented a remarkable nodular thickening of the intima resulting from arterio-sclerosis. There were a few small nodules of calcification, but most

of the endarteritis was gelatinous and fresh in appearance. Beyond this circumscribed zone of arterio-sclerosis the aorta presented only a few small patches of atheroma, and in general the arteries of the body were but slightly atheromatous. The coronary arteries of the heart, however, presented a number of atheromatous patches. The most interesting feature of the case was the complete obliteration of the mouth of the right coronary artery. This mouth was involved in the extensive fibrous endarteritis affecting the aorta just above the valves, so that it was impossible to discover any opening from the aorta into the right coronary artery. This artery, however, was present in its normal situation and distribution and its lumen, apparently intact, could be traced nearly to the origin, where even the finest probe could not be made to pass from the lumen into the aorta. The left coronary artery appeared dilated but no large branch of anastomosis, connecting the left and the right coronary arteries, could be discovered. The right coronary must have been supplied with blood from the left artery.

The muscular substance of the heart, save the fibroid growth, was normal in appearance and free from fatty degeneration.

The organs of the body showed evidences of chronic venous congestion, and in the right kidney and ureter were fresh tubercular deposits associated with caseous tuberculosis of the prostate gland.

The case is interesting as showing complete obliteration of the right coronary artery at its origin by arterio-sclerosis of the aorta. Notwithstanding the absence of any large anastomosing branches between the left and the right coronary arteries, sufficient blood reached the regions of the heart, supplied by the right coronary, to nourish these parts and to prevent any fatty degeneration. The fibroid patches were chiefly, in parts, supplied by the left coronary artery.

3. The third specimen was one of extreme atheroma and thrombosis of the coronary arteries with multiple white infarctions in wall of left ventricle.

The patient was a woman 67 years old who, for twenty years preceding death, had complained of occasional attacks of pain in the region of the heart. During the last three months of life she had suffered from paroxysms of typical angina pectoris, from attacks of extreme dyspnœa, from great restlessness and some mental disorder. The pulse was irregular and feeble. The heart sounds appeared to be normal. Some œdema of the lower extremities developed. The urine contained a small quantity of albumen and a few hyaline casts. During the last few days of life she suffered from great pain and distress in the region of the heart, and she expectorated small, dark clots of blood.

At the post-mortem examination the heart was only moderately enlarged, and this enlargement was due chiefly to a considerable deposit of adipose tissue beneath the epicardium. There was general obesity of the body. The left ventricle, at about its middle, measured 1 cm. in thickness. Below this it became gradually thinner, and at the apex measured only 4 mm. in thickness, of which one-half was fat. The average thickness of the right ventricular wall was 5 to 6 mm., of which only 2 mm. represented muscular tissue, the rest being fat. The right cavities of the heart were distended with coagulated blood, chiefly cruor clots, but some decolorized; but little blood was found in the left ventricle. The aortic valves and the aortic segment of the mitral valve presented several yellowish, fatty and atheromatous patches, but the edges of the valves were delicate and there were no evidences of any change which would interfere with the functions of the valves. There were numerous ante-mortem thrombi attached to the inner surface of the left and of the right ventricles in their lower halves, and filling the appendices of the auricles. Many of these thrombi were globular and had undergone central softening. In the left ventricle they were continuous with areas of necrosis in the ventricular wall, and it was not always possible to recognize the line of separation between the thrombus and the necrotic wall.

The coronary arteries were extremely atheromatous, standing out as rigid tortuous calcified vessels with atheromatous projections on their inner surface. Even the small branches could be traced through the heart wall by means of the calcified beaded thickenings which they presented. Both coronary arteries were greatly narrowed by atheromatous degeneration near their origin. In many places grayish-red thrombi were present in the branches of the left coronary artery, sometimes parietal and sometimes, especially in the smaller branches, occluding. They occurred in situations where there was well marked atheroma. The left coronary artery was more extensively diseased than the right.

A large part of the wall of the left ventricle was the seat of white infarction or anæmic necrosis. These areas of coagulation-necrosis had an opaque, yellowish-white color, a firm consistence and well defined but irregular margins. They projected on the cut surface above the level of the surrounding muscle which, in the immediate neighborhood of the infarctions, appeared depressed, gelatinous, reddish in color and soft. The areas of necrosis were found only in the wall of the left ventricle and in the septum ventriculorum; they occurred chiefly in the part of the myocardium nearest the endocardium, and usually, but not in all cases, reached the endocardium. Sometimes they had more or less of a wedge-shape, but generally they were irregular in contour. They varied from 2 to 6 mm. in thickness, and appeared to have coalesced with each other so as to form a nearly continuous band of coagulation-necrosis in the lower part of the left ventricle. They occurred both on the anterior and on the posterior wall of the ventricle as well as in the septum. The papillary muscles of the left ventricle were affected with coagulation-necrosis throughout nearly their entire extent.

In addition to the infarctions the myocardium of both ventricles was affected by marked fatty degeneration, and presented a characteristic faded-leaf mottling as seen through the endocardium.

The lungs were the seat of chronic passive congestion, of general bronchitis, of œdema; and in the right lung were many firm, black, large, wedge-shaped hemorrhagic infarctions.

The liver, spleen, kidneys and stomach presented the usual appearances of chronic passive congestion.

The aorta and its principal branches were the seat of marked arterio-sclerosis, presenting both gelatinous, elevated, fresh plâques and old calcified plates.

Microscopical sections were exhibited showing the appearances of the infarctions in the heart wall. In the necrotic areas the muscular fibres were entirely devoid of nuclei, and presented a homogeneous, hyaline or indistinctly striated appearance. In the edge of the infarction were accumulated between the muscular fibres masses of small irregular particles presenting a nuclear stain and doubtless the result of nuclear fragmentation. Beyond this zone was found an accumulation of leucocytes between the fibres, and a large number of red blood corpuscles. Mixed thrombi, rich in fibrin, leucocytes and blood-plates appeared on the sections attached to the necrotic endocardium. Such thrombi, however, were not limited to the necrotic areas.

In addition to the recent infarctions, the muscular wall of the left ventricle contained a number of old fibroid patches. Along the borders of some of the infarctions genuine granulation tissue, rich in cells and in blood-vessels was present.

Two Cases of Reflex Nerve Manifestations Cured by Operation.—Dr. HALSTED.

Dr. Halsted presented a patient whose ulnar nerve he had recently stretched for the relief of painful spasms of the muscles of the hand, forearm and arm, and, apropos of this case, reported two others operated upon by him for the relief of reflex nerve manifestations.

CASE I.—Presented. Wm. A. Leslie, white, aet. 33. Eight to nine years ago he was kicked on the inner surface of the right elbow, causing intense pain with contraction of the hand. The hand was useless for nearly a year on account of stiffness and pain. After this he regained some use of his arm, but had frequently recurring spasmodic pains and contraction of the fingers upon any slight strain, compelling him to stop work for a week or two at a time.

In April, 1888, the same elbow was caught in machinery and the symptoms recurred in an aggravated form. The severity of this attack also passed off. Last September the patient fell from a wagon striking the elbow again, the same symptoms recurring with increased severity. The hand grew purple, the arm swollen, the contraction of the fingers stronger and the spasms frequent and very painful.

Ever since the first injury, but especially after the last, he has had tremor of the affected arm.

On admission the right arm was not appreciably wasted. The fingers were flexed at the meta-carpo-phalangeal and inter-phalangeal joints. The fingers could be straightened by passive movements, not, however, without causing a good deal of pain referred to the site of the injury.

There was a constant, fine, rythmical tremor affecting the hand and, to less extent, the arm. Any voluntary effort increased this tremor or, indeed, if the arm was even raised passively the tremor was increased.

All voluntary movements of the arm caused pain, but there seemed to be no paralysis. The contracted fingers could not be voluntarily extended. The sensation tested with regard to touch, pain and temperature, was subnormal over the whole arm; most marked on forearm and dorsum of hand. The change did not follow the distribution of any nerve. All the nerve trunks were painful to pressure, the ulnar could be felt just back of the olecranon and was extremely sensitive.

November 23rd. Under ether, the ulnar nerve was laid bare for about four inches and stretched with fingers both upwards and downwards. The wound was closed with buried skin sutures of silk.

For three days after the operation, the patient had considerable pain in the region of the wound and the right shoulder, but it was not spasmodic and did not resemble the pain experienced before the operation. After this he had no discomfort worth noting.

On the eighth day the wound was dressed and found to have healed by first intention. On the ninth day (when the case was presented) the contraction had disappeared. There was no tremor. Voluntary motion was free and caused neither pain nor tremor. Sensation was everywhere normal. There was a slight sense of numbness in the little and ring fingers.

CASE II.—Cranial neuralgia and reflex mental disturbance cured by the excision of filaments of the supraorbital nerve. Mary Frisbie, colored, æt. 10 years. Two years ago the patient fell from a cart, striking her head and causing a small depressed fracture at the outer side of the left frontal eminence. No physician was called and the wound healed in three or four weeks. Since that time, during hot weather, and at intervals of two or three weeks, the patient would have frontal headache at night, occasional neuralgic pains on the left side of the face, throbbing in the head and tinnitus aurium. The next day, if not watched, she would escape from the house and, evading all pursuit, run off, being caught only when tired out. At such times she is said to have had a "wild look in her eyes," to have run very swiftly and to have used various means for preventing her capture. The next day she would profess no knowledge of the matter. During the intervals, she had shown no abnormal symptoms except an inability to endure loud noises, such as school children reading in concert, on account of the "throbbing" and "singing" which the noises cause "in her head."

The attacks seldom occurred in cold weather; the warmer the weather, the more frequent they were. There was a small scar on the outer side of the left frontal boss and pressure revealed a slight triangular depression beneath the scar.

August 27th.—Under chloroform followed by ether, a small flap, including the scar, was dissected up over the left eyebrow, and a few filaments of the supra-orbital nerve resected. On the eleventh day the patient left the Hospital to report at the dispensary. She has recently returned, her mother reporting the complete absence, since her discharge, of any of the symptoms for which she was treated.

CASE III.—Cranial neuralgia and tinnitus aurium of nine years duration cured by excision of the suboccipital nerve.

Mrs. I., æt. 36. Consulted Dr. Halsted in October, 1885. She was suffering intensely from cranial neuralgia and from a ringing in the left ear, which latter she compared to the noise of a fire engine at work. For nine years she had been afflicted with dreadful headaches and with this ringing in the left ear. She would occasionally, for a week or ten days at a time, be without headache, but the ringing in the ear was quite constant and very annoying. The headache was often so severe as to lead her to believe that she would become insane from it.

She described "attacks" of pain. The pain would begin, it seemed to her, back of the left ear and from there radiate first over the left side of the head to the left eye and thence to almost every part of the head.

An attack would last from three days to two weeks or longer. She occasionally suffered from nausea, when the pain was most intense. It seemed to her as it did to Dr. Halsted that there was a very small hard nodule over the mastoid portion of the temporal bone. Pressure on this nodule caused pain which would dart forward to the left forehead. Dr. Halsted advised excision of the nodule as he believed it to be connected with the suboccipital nerve.

The patient consented to the operation but became so unnerved—perhaps from the effects of the cocaine which had been injected into the part to be excised—that Dr. Halsted was obliged to content himself with a single cut through the little tumor down to the bone.

Much to his gratification the patient was entirely relieved from her headaches for about one year. She was not, however, relieved from the ringing in the left ear. For about eleven months there was anæsthesia of that portion of the scalp which is supplied by the left suboccipital nerve. With the disappearance of the anæsthesia the headaches returned, and in November, 1886, they were quite as severe as ever. The patient again applied to Dr. Halstead for relief and was operated upon under ether. The scar from the first operation was excised and also a piece of the suboccipital nerve central to the departure from it of its auricular branch. There was no trace of the little fibrous tumor which had been observed the year before. Three or four days after this operation the patient suffered for a few hours from headache and ringing in the left ear but from that time until February, 1888, when she died suddenly of heart disease, there was no return either of the headache or of the ringing in the ear.

In connection with the cases of reflex nervous manifestations, Dr. H. M. Thomas reported the following:

Miss ——, age 25, was operated on by Dr. Halsted on November 12th for the removal of a small adeno fibroma from the left breast. Patient suffered for two days after the operation from extreme nausea, to relieve which two hypodermic injections of morphia were given in the left arm. There was some slight local pain at the site of injection. On the fourth day, the wound having healed by first intention, she left the hospital and was seen by Dr. Thomas on the afternoon of the 17th at which time she was suffering from intense pain in the left hand and arm. There was a sensation of numbness and of pins and needles referred to the fingers. The slightest voluntary motion of any of the fingers caused great pain. Objectively the sense of touch on the fingers was very little if at all below normal. All the nerve trunks were very sensitive to pressure, the median rather more than the others. Pressure over this nerve at the wrist caused intense pain, as did pressure over the plexus in the neck above the clavicle. She said that the pain was so severe she had been unable to sleep the night before. There was not the slightest sign of any local irritation from the hypodermic injection. There was no pain referred to the wound in the breast. The symptoms suggested that there was an acute neuritis of the brachial plexus. The arm was bound in cotton and five grains of antifebrin were given. Dr. Halsted, having been told of the supposed complication, saw the patient on the following day and found her suffering much less spontaneous pain. On examining the wound, which he found in a perfectly satisfactory condition, he discovered that pressure over the long thoracic nerve caused very severe pain referred to the left arm and hand. From this he was convinced that the pain of the previous day had been merely reflex and caused by the involvement in the granulations of some of the filaments of the long thoracic nerve. The subsequent history of the patient, whose pain quickly disappeared not to return again, seems to show that this was the correct view.

Dr. Thomas also showed a patient who had come to the dispensary for the first time that afternoon, and who was of interest taken in connection with Dr. Halsted's case as possibly suffering from reflex migraine due to injury of the ulnar nerve. The history of the patient is as follows: M. H., aet. 44, previous history unimportant. Has been a fairly healthy man up to commencement of present trouble, which dates back eight or nine years. He first noticed a dull, heavy pain around the left elbow. After this symptom had lasted for about two years he struck his elbow against a wall after which his pain became more severe and he began to suffer from attacks of migraine. These attacks have latterly become more frequent and he has now about three every week. These attacks always begin with pain in the left elbow which travels up the arm and neck into the head, when it becomes very severe, and is localised more especially in the forehead. The attacks usually culminate in vomiting, which occasionally persists for several hours. After the vomiting has ceased patient is quite relieved except for a sense of soreness referred to the regions of the heart and stomach.

Objectively nothing abnormal was discerned except that both ulnar nerves were more easily felt than is normally the case and were sensitive to pressure. Muscular strength and sensation were normal in both arms.

Thiersch's Skin Grafting with Exhibition of Cases.—Dr. BROCKWAY.

Dr. Brockway said:

Reverdin's method of skin grafting as reported in 1870, (*Gaz. des Hopiteaux*, 187, No. 4) presented two faults or disadvantages.

1. Shrivelling of the graft. 2. Failure to unite.

Thiersch, in 1874, reported causes of these faults and stated that healing of granulating surfaces depends on two factors.

1. The change of the vascular, soft, circumscribed granulation papillæ, into the dry, poorly nourished and thinned cicatricial papillæ, which leads to the diminution of the surface and the drawing together of neighboring parts.

2. The covering of the shrivelled granulations with epithelial cells.

These two processes, the shrivelling and skinning over, have certain limits.

If skin is placed on the granulations, which have not yet reached the maximum of shrivelling, this shrivelling continues underneath the healed skin with all the disadvantages of scar contraction and you have only hastened the closure of the wound.

If skin be placed on a surface which has reached its maximum of shrivelling, then the shrivelling goes no farther, but the weak granulations remain under the healed skin and small mechanical disturbances are enough to bring about hemorrhages or exudations and to cause the falling of the skin strip.

These two faults rest then on peculiarities of granulation tissue.

A perpendicular section of granulation tissue shows, practically two layers, an under layer, which, according to the age of the tissue, is more or less dense and where the vascular net work has a horizontal direction. From this lower layer, perpendicular tufts of vessels rise into the papillæ and so form an upper layer. This upper layer plays the chief role in the contractions as well as the ill success of result and gives Thiersch a reason for shaving it off.

Plessing reports cases at Leipzig Klinik up to Oct., '86, (*Archiv f. Klin. Chir.*, 1888, Bd. 27, Heft 1.)

Preparations — cleansing and disinfection of the wound defect and of the skin to be implanted were carefully made.

At first he used a variety of disinfectants, but finally found that only six-tenths of one per cent. of sodium chloride solution should come in contact with wound surface or raw surface of the skin flap. Usually no anæsthesia. Done on children without crying. No anæsthesia unless necessary for immobilization of the parts.

In a granulating wound the upper layers are scraped off, which is better done with curette as it follows all unevenness of dense lower layer, wound is washed with salt solution and pressed upon by protective and a sponge, when bleeding stops in five to ten minutes. Rarely tie anything.

Important to choose right stage of granulation. Not too fresh granulations where the lower layer is loose meshed or unclean conditions of wound exist, or where a fibrinous layer is over wound. Best is after about six weeks and after granulations are shrunken by repeated caustics, astringents and compressions. After preparation thus, the wounded surface is washed once with salt solution, skin taken from the upper arm or thigh by sawing motion of knife under continuous dripping of salt solution.

However thin you may cut the strip it will contain the outer papillæ of skin and a smooth underlying layer of skin connective tissue. Perhaps in the palm or sole, you might get only the papillary layer. You wish to get the smooth stroma beneath, where the vessels lie horizontally, for then when the blood finds entrance into the graft, if it can only enter at one or two points, it will easily spread throughout the whole layer and go up into the perpendicular tufts, whereas if only the perpendicular tufts were present it would be a matter of some chance if all got nourishment. A thin section heals more easily than a thick one, but a thicker one gives better results.

Strips are about two cm. broad if from thigh, or will be too thick in the middle, and ten cm. long.

Take the strip directly on to the wound from knife and correct position by probe or needle or brush. Let the strips overlap a little and also cover edges of the wound.

Between spaces give chance for granulations to crop up. Edges melt away and do not leave a scar lattice work. Wet dressing better than dry or oil, though bacterial growth is favored thereby. Dressed every day for a week. Neighborhood of wound is besmeared with oil to prevent dressings from sticking. Skin covered with strips of protective, one cm. broad, put parallel and overlapping. On this a thick pad of wadding or gauze, a mull and a starch bandage.

If you use a dry dressing, use iodoform. Iodoform is best on the place whence grafts were taken, and this wound heals in eight to fourteen days under one dressing. This wound has no scar contraction and three crops of grafts can be taken from same spot, after successive healings.

Changes observed: At first dressing skin should be rose-colored and success is assured, if it is white then it will separate on next day or may remain an epithelial island. Blood beneath gives a blue color and hinders healing or prevents it.

Sometimes have to turn back to wet dressings if signs of infection occur after the first week.

Disturbances of healing: (1) Pathogenic germs do no harm after a week. (2) Fibrinous layer over wound surfaces. (3) Granulations break through from beneath.

Syphilis and pus infection are chief causes of failure; eliminated by careful disinfection of site, of hands, of instruments, etc., by freshly sterilized salt solution; right choice of stage of wound granulations; thorough drying of wound; complete covering by skin; immobilization; careful dressing—not too tight, not too loose—and by daily change and washing for first week. Best results on scraped granulations, next best on skin stroma, fascia and periosteum; gland tissue and muscle, not good results; spongy bone substance and tendons no sure result; compact bone, as on cranium, no result at all; 750 qcm. of wound was covered from skin of both arms, whose surface was three or four times smaller, and no scar contraction resulted after the third cutting of the grafts; wounds grafted in eight or nine sittings, size of two saucers at a time; repeated in one and a half to two weeks; useful in plastic operations as cancer of nose and face, where the base, whence flap was taken, can be grafted; 40 cases in all reported from this Klinik; 78 transplantations; 17 times on fresh wounds; 61 times on scraped surfaces; 58 times complete healing—75 per cent.; 12 partial; 8 repeated operations.

Dr. Halsted has recently used this method on six cases at the Johns Hopkins Hospital, four of which we present this evening. He has found some modifications of Thiersch's method useful. It is hard to see the necessity of daily dressings. If there is pus infection, the washing by sterilized salt solution will not disinfect it but tend to sweep off the grafts and disturb what few adhesions they may have formed. No strong disinfectant solution can be used or coagulation necrosis will result. In one case which seemed to have absolutely failed, a few of the white, loosened grafts were replaced and contracted adhesions on a suppurating surface.

On a specific ulcer no trace of a graft was to be seen at first dressing on ninth day, but at next dressing a broad epithelial layer was present, evidently the remains of grafts. There was no pus infection in this case and when it does occur, it does not necessarily mean failure.

Again, Dr. Halsted believes excision of the ulcer and its margins by the smooth cuts of a knife to be preferable to scraping with sharp spoon. Probably the upper layers of granulations are infected and the scraping and tearing of these and the rolling of them upon the non-infected base of ulcer may be one cause of failure. The base is also smooth when knife is used and the grafts are more easily approximated. It is doubtful whether the granulations can be disinfected to any great extent, for a solution strong enough to do this would also be strong enough to affect the nutrition of the base beneath; neither is it known how deeply the pus organisms or other infection may penetrate in case of a chronic ulcer.

It would seem best, however, to disinfect as thoroughly as possible the surface of granulations with 1–1000 bichloride or 1–30 carbolic and then, by careful use of knife, to shave off the ulcer, going pretty deeply, and to hope that you have not infected the base from the superficial granulations. Chances of getting an aseptic surface would seem greater by so doing than by scraping the granulations and handling them roughly.

The ulcer and site from which grafts are to be taken are treated by a green soap dressing for twelve hours, parts are then shaved, if necessary, and scrubbed thoroughly and then done up in carbolic dressing 1–30, and kept constantly moist by this solution for three or four hours.

At time of operation all is thoroughly washed with six-tenths per cent. salt solution, and sterilized instruments and disinfected hands rinsed with same. Anæsthetic always used. We use an amputating knife for cutting the grafts and divide the labor thus: One assistant cuts the skin strips about 10 by 2 cm., and can do it better after some experience than he did before, though it is not difficult. Another floats these grafts in the salt solution on to large glass cover slips about four inches long (10 or 12 cm.). It has been suggested to use thin strips of mica instead. This will be found rather tedious. A third assistant puts grafts in place on ulcer,

dressing as described by Thiersch. For a few days the patient complains more of the site whence grafts were taken, than of the ulcer treated. In one case we kept grafts three hours in warm salt solution before they were applied to ulcer of another patient and each one lived.

Of our cases three were wholly successful and three partially so. All were old ulcers. No fresh wounds. Two were scraped and three excised by knife, and in one the grafts all adhered placed directly upon suppurating granulations from a burn. It is remarkable how well some cases do where few precautions can be taken; the converse is also noticeable and disappointing.

CASE I.—John McC., aet. 46, admitted October 31st, 1889. Received extensive burn of left leg and thigh twenty-six years ago. Healed after a time. Ulcerated eight years ago, following injury, and again healed. Following injury of four months ago, cicatrix again broke down and ulcer continues to increase in size.

Microscopically the ulcer resembles epithelioma, except it does not tend to invade healthy tissue.

November 2. Under ether and preparations as above described, granulations and skin margins are cut away leaving a wound 5½ by 2½ in. This is completely covered by skin grafts from arm.

Dressed every day. Agar innoculations made each day. Cultures of staphylococcus on third day. About ⅓ of grafts failed.

CASE II.—Lewis D., aet. 37, admitted October 2nd, 1889. Ulcer of abdomen and scrotum, following operation for urinary fistulæ.

November 7. After scraping off granulations, ulcer about 3 by 3 in. Skin grafted. Dressed every three days. Dressing often wet with urine. Grafts united perfectly, healed in two weeks.

CASE III.—Louisa S., aet. 37, operated for carcinoma breast, June 14th, 1889. Operated for recurrence in skin margins, July 22nd. Operated for resulting ulcer of 3 by 3 in., November 7. Ulcer excised under ether and skin grafted. Dressed on the third day. Bacillus pyocyaneus found from innoculations. Grafts all took except in small area. Ulcer healed in seventeen days.

CASE IV.—Lizzie S., aet. 12. Extensive burns of trunk and lower extremities on June 23rd, 1889. Small grafts applied at different times.

November 7. Large grafts, according to Thiersch's method, applied directly to sluggish and purulent surface. Grafts kept in salt solution, six-tenths per cent., and applied three hours after taken from donor. Every one healed perfectly. Dressed every three days. Here there was no scraping or shaving of granulations and we expect cicatricial contractions, as though there had been no grafting. The main object is to cover over a large secreting surface.

CASE V.—Anderton B., aet. 32, admitted November 12th, 1889. Chronic ulcer of leg for four years, very foul and leg œdematous. Rest in bed and boric ointment for fifteen days.

November 27th. Great improvement. Ulcer scraped, under ether, dimensions 8½ by 4½ in. Grafted from thigh. Dressed on fourth day. Unsuccessful; nearly all have sloughed and are easily washed off. Part of grafts were replaced and adhered. Two weeks later ulcer was fast healing.

CASE VI.—Cecelia J., aet. 22, admitted November 13th. November 15th, operation. Prepatellar ulcer, syphilitic. 2 by 3 in., all cut out under ether and grafted. Dressed on ninth day. Not successful. Around margins, there appeared epithelial covering at next dressing, and ulcer went on to good healing.

We consider the most important factor of the whole system to be the upper layer of a granulating surface as described by Thiersch. Scar formation and contractions depend upon this layer and the success of the operation seems involved in its removal, so that the horizontal vascular net work of the base shall come in contact with horizontal net work of graft.

HOSPITAL JOURNAL CLUB.

Meeting of January 2nd.

Laryngology.—DR. MACTIER WARFIELD.

"Tonsillitis." *G. F. Boucsein.*
(*American Journal of Med. Sciences*, Oct. '89.)

Aprosexia. Being the inability to fix the attention, and other alterations of the cerebral functions caused by nasal disorders." *Gurje.*
(*Journal of Laryng. and Rhin.*, Dec. '89.)

"Einige Fälle von geheilter Reflexepilepsir der Nase." *Schneider.*
(*Berliner Klin. Woch.*, 1889, No. 43.)

Meeting of January 9th, 1890.

General Medicine.—DR. REESE.

"Early diagnosis of chronic kidney lesions." *C. S. Bond, Richmond, Indiana.*
(*American Journal of Med. Sciences*, Jan. '90.)

Hygiene.—DR. ABBOTT.

"Studien über die Abschwächung virulenter Bacterien und die erworbene Immunität." *von C. Flügge.*
(*Zeit. f. Hygiene*, Bd. IV.)

"Ueber das Wesen der Abschwächung pathogener Bacterien." *von G. Smirnow.*
(*Ibid.*)

"Ueber die entwickelungshemmenden Stoffwechselproducte der Bacterien und die Sog. Retentionshypothese." *von Dr. Sirotinin.*
(*Ibid.*)

"Kommt durch die Entwickelung von Bacterien im lebenden Körper eine Erschöpfung desselben an Bacterien-Nährstoffen zu Stand?" *von H. Bitter.*
(*Ibid.*)

"Ueber die Verbreitung der Vaccins und über die Ausdehnung des Impfschutzes im Körper des Impflings." *von H. Bitter.*
(*Ibid.*)

"Experimente über die bacterienfeindlichen Einflüsse des thierischen Körpers." *von Geo. Nuttall.*
(*Ibid.*)

"Untersuchungen über die Ursache der erworbenen Immunität." *von Emmerich u. Mattei.*
(*Fortschritte d. Med.*, '88.)

"Ueber die bacterientödtenden. Wirkung des zellenfrien Blutserums." *von Hans Buchner.*
(*Cent. f. Bact. und Parisitenkunde*, Bd. V, No. 25 and Bd. VI, No. 1.)

"Ueber die nähere Natur der bacterientödtenden Substanz in Blutserum." *von Hans Buchner.*
(*Cent. f. Bact. und Parisitenkunde*, Bd. VI, No. 21.)

"Ueber die bacterienvernichtenden Eigenschaften des Blutes und ihre Beziehungen zur Immunität." *von O. Lubarsch.*
(*Cent. f. Bact. und Parisitenkunde*, Bd. VI, Nos. 18, 19 and 20.)

Regular meeting January 28th, '90.

Neurology.—DR. SIMON.

"On the treatment of certain diseases of the spinal cord by suspension."
Literature.—*Brain*, Oct. '89.
Medical News, June 1st, '89.
Rev. méd. de la Suisse, '89, Vol. VI.
British Med. Journal, Sept. 14th, '84.
" " " Oct. 5th, '89.
" " " Oct. 19th, '89.
Lancet, Oct. 19th, '89.
Revista gen. Ital. di Clin. Med., Oct. 25th, '89.
La riforma Medica, No. 258.
British Med. Journal, Nov. 9th, '89.
Progr. Med., Nos. 44, 47, 48, '89.
Lancet, Jan. 4th, '90.
Therapeutic Gazette, Sept. '89.

Gynaecology.—DR. ROBB.

A synopsis of 206 forceps applications in the Dresden Clinic. *Münchmeyer.*
(*Arch. für Gynäkologie*, Band XXXVI, Heft 1.)

Rupture of the uterus; supra-vaginal amputation; recovery. *Coe.*
(*New York Med. Record*, Nov. 2nd, '89.)

Retroversion of the uterus in pregnancy. *Martin.*
(*Deutsche Med. Wochenschrift*, No. 39, '89.)

Case of large chylous cyst of the mesentery.
(*Obstet. Soc. of London*, Nov. '89.)

Menstruation and pseudo-menstruation after double ovariotomy, and removal of the uterine appendages.
(*Editorial. Med. and Surg. Reporter*, Phila., Jan. 18th.)

Surgery.—DR. BROCKWAY.

"Early operation in cases of diseases of the vermiform appendix." *McBurney.*
(*N. Y. Med. Journal*, Dec. 21, '89.)

"Perityphlitis and general peritonitis." *Hartley.*
(*N. Y. Med. Journal*, Dec. 21, '89.)

"Surgical treatment of typhlitis." *Treves.*
(*British Med. Journal*, Nov. 9, '89.)

"Appendicitis." *Homans.*
(*Boston Med. and Surg. Journal*, Jan. 23, '90.)

"Early treatment of perityphlitis." *Murphy.*
(*Western Med. Reporter*, Dec. '89.)

SCHEDULE OF LECTURES AT THE JOHNS HOPKINS HOSPITAL TRAINING SCHOOL FOR NURSES.—1889-90.

1889.

November 1.—DR. ABBOTT.
Physical properties of the atmosphere.
Air-currents resulting from alterations in temperature and barometric pressure.

November 8.—DR. ABBOTT.
Diffusion of gases as seen in the so-called "Natural Ventilation."
Application of this law to systems of artificial ventilation.
Diagrammatic representation of the principles of artificial ventilation.

November 15.—DR. ABBOTT.
Pollution of the atmosphere; sources of gaseous impurities.
Dangerous impurities arising from combustion of fuel, of illuminating gas, from the human body, etc.
Sewer gas.

November 22.—DR. ABBOTT.
Determination of the amount of fresh air necessary to health and comfort.
The usual methods of obtaining the same.
Handy methods which may be employed in cases of necessity.

November 29.—DR. ABBOTT.
Practical methods of studying ventilation.
Methods for detecting if the necessary amount of fresh air is being obtained.

December 3.—DR. COUNCILMAN.
The body as a whole.

December 6.—DR. ABBOTT.
Demonstration of different plans of ventilation; conducted upon a model constructed for the purpose.
Special remarks upon the plans adopted in the ventilating arrangements of the Johns Hopkins Hospital.

December 10.—DR. COUNCILMAN.
The digestive system with demonstration.

December 13.—DR. BROCKWAY.
Cell life.

December 17.—DR. COUNCILMAN.
The circulatory system.

December 20.—DR. BROCKWAY.
Bacteria; their relations to health and disease.

1890.

January 2.—DR. BROCKWAY.
Inflammation.

January 7.—DR. COUNCILMAN.
The respiratory system.

January 9.—DR. BROCKWAY.
Sprains, contusions, wounds.
Hemorrhage and its treatment.

January 14.—DR. COUNCILMAN.
The nervous system.

January 16.—DR. BROCKWAY.
Healing of wounds.

January 21.—DR. LAFLEUR.
How and what to observe by the bedside.

January 23.—DR. BROCKWAY.
Principles of aseptic and antiseptic surgery.
Treatment of wounds.

January 28.—DR. LAFLEUR.
Temperature.

January 30.—DR. BROCKWAY.
Dressings and disinfectants.

February 4.—DR. LAFLEUR.
Pulse.

February 6.—DR. BROCKWAY.
Wound accidents, suppuration, abscess, erysipelas, septicæmia, tetanus, etc.

February 11.—DR. LAFLEUR.
Respiration.

February 13.—DR. BROCKWAY.
Bandaging.

February 18.—DR. OSLER.
Fever nursing.

February 20.—DR. BROCKWAY.
Fractures, dislocations and their treatment.
Prompt aid to the injured.

February 25.—DR. LAFLEUR.
Special nursing in contagious diseases.

February 27.—DR. BROCKWAY.
Surgical operations.
Anæsthetics and their administration.
Care of patients, before, during and after operations.
Shock and emergencies.

March 4.—DR. LAFLEUR.
Special nursing in diseases of respiration and circulation.

March 6.—DR. BROCKWAY.
What to do in the operating room and surgical wards, and what not to do.

March 11.—DR. LAFLEUR.
The urine.

March 13.—DR. BROCKWAY.
Special operations.
Some surgical diseases, tumors, etc.

March 18.—DR. LAFLEUR.
Medical appliances and emergencies.

March 20.—DR. LAFLEUR.
Materia medica. Common remedies.

March 25.—DR. WELCH.
Subject to be announced.

March 27.—DR. LAFLEUR.
Common poisons with antidotes.

April 1.—DR. THEOBALD.
The care of the eyes in disease and after surgical operations.

April 3.—DR. THEOBALD.
The care of the eyes in disease and after surgical operations.

April 8.—DR. THEOBALD.
The care of the eyes in disease and after surgical operations.

April 10.—DR. KELLY.—*Gynæcology.*
Special part of body with which we have to deal.
Anatomy of pelvis and soft parts hung within pelvis and under pubic arch.

April 15.—DR. BOOKER.—*Children's Diseases; Care of Infants.*
Condition of the child immediately after birth.
1. General appearance. 2. Bony frame-work. 3. Internal organs. 4. Changes in the blood circulation. 5. Establishment of pulmonary respiration.

April 17.—DR. KELLY.
Diseases to which women are liable.

April 22.—DR. BOOKER.
Infancy. 1. Growth and development of infants. 2. Physiological peculiarities. 3. Tendency to disease. 4. Great mortality.

April 29.—DR. KELLY.
Assistance of nurses at operation.
Asepsis.
Way to keep aseptic while on duty.

May 1.—DR. BOOKER.
Care of healthy infants. 1. Handling. 2. Bathing. 3. Clothing. 4. Sleep. 5. Exercise. 6. The nursery.

May 8.—DR. KELLY.
Care of patient after operation.
Vomiting, pain, posture of patient, catheterization, changing of dressings, enemata.

May 13.—DR. BOOKER.
Infant feeding. 1. In health. 2. In sickness.

May 15.—DR. KELLY.
Gynæcological instruments.

May 20.—DR. BOOKER.
Care of sick children.

May 22.—DR. MORISON.
Anatomy of the skin. Hyperæmia, erythema, eczema.

May 27.—DR. THOMAS.
The application of electricity.

May 29.—DR. MORISON.
Parasitic diseases of the skin.

June 3.—DR. THOMAS.
The application of electricity.

June 5.—DR. MORISON.
Application of remedies to the common form of skin diseases.

June 10.—DR. MACKENZIE.
Diseases of the throat.

June 12.—DR. HURD.
The care of the nervous and insane.

June 17.—DR. MACKENZIE.
Diseases of the throat.

June 19.—DR. HURD.
What to do for special forms of insanity.

June 24.—DR. MACKENZIE.
Diseases of the nose.

June 26.—DR. HURD.
Occupation for the invalid and convalescent.

Publications of the Johns Hopkins Hospital.

I.—HOSPITAL PLANS.

Five essays relating to the construction, organization and management of Hospitals contributed by their authors for the use of the Johns Hopkins Hospital of Baltimore. These essays were written by Drs. JOHN S. BILLINGS of the U. S. Army, NORTON FOLSOM of Boston, JOSEPH JONES of New Orleans, CASPAR MORRIS of Philadelphia and STEPHEN SMITH of New York. They were originally published in 1875. One volume, bound in cloth, price $5.00.

II.—DESCRIPTION OF THE JOHNS HOPKINS HOSPITAL.

In preparation to be issued at an early day, a description of the Johns Hopkins Hospital, by JOHN S. BILLINGS, M. D., LL. D., Medical Adviser to the President and Building Committee of Board of Trustees. This volume will contain numerous plates with plans and detail drawings of all the Hospital Buildings; also photographic views of the exterior of the buildings. It will contain a careful and detailed description of the methods of heating and ventilating, plumbing and water-supply; also of the arrangements of the wards and service buildings and the mode of construction of the Hospital.

III.—THE JOHNS HOPKINS HOSPITAL REPORTS.

Volume I, for 1889. (In preparation). This volume will contain the Studies from the Pathological Laboratory.

There will appear articles on the following subjects: Hemorrhagic Infarction, Repair of Intestinal Suture, Reversal of the Intestine, Extirpation of the Thyroid Gland in Dogs, The Effects of Artificial Heat upon Animals, Hog Cholera, Behavior of Bacteria in Water, Bulbar Paralysis, Cerebellar Sclerosis.

The volume will be provided with illustrations.

It will be edited by Dr. W. H. WELCH, Professor of Pathology and Pathologist to the Hospital.

Volume II, for 1890. The second volume of the Hospital Reports began in January, 1890, with a fasciculus of 64 pages. During the year, similar fasciculi will be issued, constituting in all a volume of about 500 pages. These fasciculi will contain pathological, medical, surgical and gynaecological papers and reports, details of cases, the technique of operations, etc. Subscriptions will be received for the volume at $5. The price of the separate fasciculi will vary with their size and the number of plates they contain.

Nos. 1 and 2 [for 1890] of the *Reports* are now ready. No. 1 contains papers on Fevers of Hepatic Origin, particularly the Intermittent Pyrexia associated with Gallstones, by WILLIAM OSLER, M. D.; some remarks on Anomalies of the Uvula, with special reference to Double Uvula, by JOHN N. MACKENZIE, M. D.; on Pyrodin, by H. A. LAFLEUR, M. D.; Cases of Post-febrile Insanity, by WILLIAM OSLER, M. D.; Acute Tuberculosis in an Infant of Four Months, by HARRY TOULMIN, M. D.; Rare Forms of Cardiac Thrombi, by WILLIAM OSLER, M. D.; Note on Endocarditis in Phthisis, by WILLIAM OSLER, M. D.—No. 2 contains papers on Tubercular Peritonitis, by WILLIAM OSLER, M. D.; A Case of Raynaud's Disease, by H. M. THOMAS, M. D.; Acute Nephritis in Typhoid Fever, by WILLIAM OSLER, M. D.

IV.—THE JOHNS HOPKINS HOSPITAL BULLETIN.

The Hospital Bulletin will contain announcements of courses of lectures, programmes of clinical and pathological study, details of hospital and dispensary practice, abstracts of papers read and other proceedings of the Medical Society of the Hospital, reports of lectures and other matters of general interest in connection with the work of the Hospital. Nine numbers will be issued annually. The first number appeared in December, 1889. The subscription price is one dollar per year.

A pamphlet containing the addresses of FRANCIS T. KING, President of the Hospital, DANIEL C. GILMAN, President of the University, and JOHN S. BILLINGS, Medical Adviser to the Hospital Trustees, at the opening of the Hospital, May 7, 1889, may be obtained on application.

Subscriptions for the above publications may be sent to the

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BALTIMORE, MARYLAND.

THE LIBRARY OF THE JOHNS HOPKINS HOSPITAL Baltimore

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